

S. HRG. 114-198

THE IMPORTANCE OF ENACTING A NEW WATER RESOURCES DEVELOPMENT ACT

HEARING BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE ONE HUNDRED FOURTEENTH CONGRESS SECOND SESSION

FEBRUARY 10, 2016

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ONE HUNDRED FOURTEENTH CONGRESS
SECOND SESSION

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C O N T E N T S

Page

FEBRUARY 10, 2016

OPENING STATEMENTS

Inhofe, Hon. James M., U.S. Senator from the State of Oklahoma	1
Boxer, Hon. Barbara, U.S. Senator from the State of California	4
Vitter, Hon. David, U.S. Senator from the State of Louisiana, prepared statement	50

WITNESSES

Portiss, Bob, Port Director, Tulsa Port of Catoosa	6
Prepared statement	8
Swearingen, John, Senior Vice President, Marathon Petroleum Corporation ...	12
Prepared statement	14
Roberson, Rob, Director of Corporate Logistics, Nucor Corporation	17
Prepared statement	19
Mattei, Norma Jean, President-Elect, American Society of Civil Engineers	23
Prepared statement	25
Makarios, Kyle, Director of Government Affairs, North Central States Regional Council of Carpenters	31
Prepared statement	33

THE IMPORTANCE OF ENACTING A NEW WATER RESOURCES DEVELOPMENT ACT

WEDNESDAY, FEBRUARY 10, 2016

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 10:02 a.m. in room 406, Dirksen Senate Office Building, Hon. James M. Inhofe (chairman of the committee) presiding.

Present: Senators Inhofe, Boxer, Barrasso, Capito, Crapo, Boozman, Wicker, Fischer, Sullivan, Carper, Cardin, Whitehouse, Gillibrand, Booker, and Markey.

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator INHOFE. The hearing will come to order.

Today's hearing is on the importance of enacting a Water Resources Development Act.

This is kind of interesting, because historically we have always wanted to have one every 2 years. So 2 years ago we had one, but before that it was 7 years. So this is significant. We are going to be highlighting the importance of rebuilding America's crumbling infrastructure and the national economic benefits that this infrastructure supports.

The U.S. marine transportation industry supports \$2 trillion in commerce and creates jobs for over 13 million people. Forty States are directly served by Corps ports and waterways. The annual economic benefit to our Nation from our investments in Corps projects averages about \$110 billion a year. That means for every dollar we invest, we get \$16 in benefits.

If we, as a country, ignore the problems facing our waterway and our port and our flood control infrastructure, those benefits and jobs will be at risk. That is why it is so important for Congress to enact our Water Resources Development Act every 2 years.

You see, it is kind of our best kept secret, Senator Boxer. We are the Nation's most eminent port, and a lot of people don't know that.

Senator BOXER. That is amazing.

Senator INHOFE. If there was time, I would tell you the story that goes with it. And the guy we are looking at here, one of our witnesses, Bob Portiss, I have known him probably since he was in college, I guess.

Anyway, thanks to Oklahoma's ports and robust lakes, we also have more miles of freshwater shoreline in the State of Oklahoma than any of the 50 States. Did you know that?

Senator BOXER. Is there a test after this?

[Laughter.]

Senator INHOFE. The McClellan-Kerr Arkansas River Navigation System is one of those waterways that the Corps manages. It is 445 miles long and spans Arkansas, eastern Oklahoma. The Port of Muskogee and the Tulsa Port of Catoosa are home to over 70 companies and industries employing more than 6,500 Oklahomans, creating an overall economic impact of more than \$400 million to my State each year. Bob Portiss can testify to that impact firsthand. We have had the opportunity to work with the Port of Catoosa and its economic development for years.

However, the impact of the waterway is not limited to just Oklahoma and Arkansas. While Oklahoma ports are the furthest inland of any other port in the United States, our ports export products from other States, as close as Kansas and as far away as Idaho, which then travel to other ports around the United States and the world.

Markets outside the United States represent 73 percent of the world's purchasing power, 87 percent of its economic growth, and 95 percent of its consumers. To be competitive, the United States must make infrastructure investment part of its growth strategy.

We are also faced with aging reservoirs that provide our communities with water and protect them during flood events. In the past year, my State has experienced two significant rain events, and it is because of our existing infrastructure that we did not suffer more damage than we did. I remember going in a helicopter, seeing how they are containing just the right amount, and did a masterful job, you guys did in the State, Bob.

Thanks to the projects of both the Arkansas River and the Red River Basin, more than \$500 million in damages were prevented in Oklahoma, Kansas, Arkansas, Texas and Louisiana after historic rainfall this past spring. Overall, the Corps' Southwest Division calculated that our water resources project saved our communities \$13 billion in damages in the south central and southwest areas of the United States.

This committee can't singlehandedly direct more funds to our water resources, but we can create policies that foster more cooperation between those that maintain the infrastructure and those that depend on the infrastructure. What we are saying here is we are not an appropriation committee; we are an authorization committee.

We created some of these policies in WRRDA 2014, but we need to do more by fostering partnerships between Federal, State, local, and private interests. We can unleash an investment in public infrastructure, and in doing so allow American businesses to remain competitive with global competitors.

Both Senator Boxer and I have made passing the WRDA bill in 2016 a top priority. With passage of the FAST Act, our transportation bill, our committee has proven that we are able to work together in a bipartisan level to develop legislation. Senator Boxer and I have a long history of working together and have proven that

when we share the common goal we are able to work together to accomplish it. That is why I am confident that we will be able to move a bill through the committee this spring and pass a WRDA bill for 2016.

Senator Boxer.

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA

Today's hearing on the importance of enacting a Water Resources Development Act or WRDA will highlight the importance of rebuilding America's crumbling infrastructure and the national economic benefits that this infrastructure supports.

The U.S. marine transportation industry supports \$2 trillion in commerce and creates jobs for over 13 million people. Forty States are directly served by Corps ports and waterways. The annual economic benefits to our Nation from our investments in Corps projects average about \$110 billion a year. That means for every dollar we invest, we get \$16.60 in benefits. If we as a country ignore the problems facing our waterway, port, and flood control infrastructure, those benefits and jobs will be at risk. That is why it is so important for Congress to enact a Water Resources Development Act every 2 years.

Thanks to Oklahoma's ports and our robust lake and flood control systems, I am very familiar with the importance of our Nation's waterways and water resources infrastructure.

The McClellan-Kerr Arkansas River Navigation System (MKARNS) is one of those waterways that the Corps manages. It is 445 miles long and spans Arkansas and the eastern part of Oklahoma. The Port of Muskogee and the Tulsa Port of Catoosa are home to over 70 companies and industries employing more than 6,500 Oklahomans, creating an overall economic impact of more than \$400 million to my State each year. Bob Portiss can testify to that impact first hand. We have had the opportunity to work with the Port of Catoosa and economic development for years.

However, the impact of the MKARNS is not limited to just Oklahoma and Arkansas. While Oklahoma ports are the furthest inland of any other port in the U.S., our ports export products from other States as close as Kansas and as far as Idaho, which then travel to other ports around the U.S. and the world.

Markets outside the United States represent 73 percent of the world's purchasing power, 87 percent of its economic growth, and 95 percent of its consumers. To be competitive, the United States must make infrastructure investment part of its growth strategy.

We are also faced with aging reservoirs that provide our communities with water and protect them during flood events.

In Oklahoma we have more miles of freshwater shoreline than any other State, with 200 manmade lakes. In the past year my State has experienced two significant rain events, and it is because of our existing infrastructure that we did not suffer more than damage than we did.

Thanks to the projects in both the Arkansas River and Red River Basins, more than \$500 million in damages were prevented in Oklahoma, Kansas, Arkansas, Texas, and Louisiana after historic rainfall this past spring. Overall, the Corps' Southwest Division calculated that our water resources projects saved our communities \$13.3 billion in damages in the south central and southwest areas of the U.S.

This committee can't single-handedly direct more funds to our water resources. But we can create policies that foster more cooperation between those that maintain the infrastructure and those that depend on the infrastructure.

We created some of these policies in WRRDA 2014, but we need to do more. By fostering partnerships between Federal, State, local, and private interests, we can unleash an investment in public infrastructure, and in doing so allow American businesses to remain competitive with global competitors.

Both Senator Boxer and I have made passing a WRDA in 2016 a top priority. With passage of the FAST Act, our committee has proven that we are able to work together on a bi-partisan level to develop legislation. Senator Boxer and I have a long history of working together and have proven that when we share a common goal we are able to work together to accomplish it. That is why I am confident that we will move a bill through committee this spring and pass a WRDA in 2016.

I look forward to hearing from our witnesses, and I thank them for their testimony.

**OPENING STATEMENT OF HON. BARBARA BOXER,
U.S. SENATOR FROM THE STATE OF CALIFORNIA**

Senator BOXER. Mr. Chairman, I agree with you, we are going to do this, and I am so excited to be working on WRDA with you again. We show the entire Senate that this committee can come together on infrastructure. We know there are other issues where it is just Venus and Mars, and that is the way it is. So, for me, I want to focus on this.

Every time we had a hearing on the environment, I leaned over and said, when we are getting to WRDA? And I couldn't be more pleased. And I think you teach us a lot about your State and how much it relies on this type of program, and how this type of program that we do in WRDA delivers sound economic growth and good jobs. It involves the movement of goods, it makes sure that we can deliver clean water, and that is what I want to really stress in my remarks, because the drinking water emergency in Flint, Michigan puts a spotlight on our national infrastructure challenges.

This is a great Nation, but a lot of our infrastructure is getting old. And we all know, most of us who own our own homes, as an example, or we own our cars, for an example, you can't just let it go; you have to stay on top of it, you have to maintain it. And in the case of water, the health and safety of children and families depend on safe drinking water.

So as we develop our new WRDA, I am hopeful we can work together, and I know we will, to address the need to invest in our aging infrastructure. The lead poisoning of kids in Flint highlights the need for a modern infrastructure system that will keep our families safe from toxins such as lead in their drinking water. There is no safe level of lead in children. The effects of lead are generally irreversible, and it harms the brains and nervous system of children and developing fetuses.

The American people have a right to expect us to make sure that their water is safe when they turn on their faucets, and it is truly a State and national priority and local priority. It is something we have to all work together on. But millions of homes across America receive water from pipes that date to an era before scientists knew the harm caused by lead exposure. And some major cities—including, I am sure, some of our cities—installed drinking water pipes more than 100 years ago. So, ipso facto, they are a potential crisis waiting to happen.

In a recent New York Times, Eric Olsen—some of you may remember he was my former staffer here—said, “You think our roads and bridges aren't being fixed? The stuff underground is totally ignored. We are mostly living off the investment of our parents and grandparents for our drinking water.” And that article was printed in the New York Times, actually, yesterday.

Aging pipes, that is a nationwide problem, Mr. Chairman. As the Detroit Free Press recently reported. Listen to this: About 10 million American homes and buildings receive water from service lines that are at least partially lead, according to the EPA. And the American Society of Civil Engineers gives our Nation's drinking water infrastructure a D. Now, we are going to hear this today; a D. And I hesitate to put this number out there because it is so big

it is frightening, but they say the aggregate investment that we need over time is \$1.7 trillion, by 2050. So we have some years, but that is a number we have to grapple with.

The next WRDA bill gives us a chance to address our aging drinking water infrastructure, and I believe the next bill should enable communities to identify the infrastructure that poses a threat to public health. And we can use existing programs, Mr. Chairman; we don't need new programs. We could use the State Revolving Fund and WIFIA, which you and I created, to target investment where it is needed most. And according to your staff, Alex told me yesterday that the leverage of that WIFIA Fund is 60 to 1. That is incredible.

Senator INHOFE. That is right, as opposed to 10 to 1 for TIFIA.

Senator BOXER. I think it is 30 to 1 in TIFIA.

Senator INHOFE. Is it?

Senator BOXER. I do. But it is much greater. So we have a chance to do this.

I just want to touch on a couple of other things. I will put my whole statement in the record, if you don't mind. But I do want to close just talking about a couple of issues in my State that I am going to work hard to address. And it just doesn't affect one State like mine.

The drought is very serious. We have been so fortunate to have some really heavy snowfall, and all of a sudden it has turned dry and hot. My son was telling me yesterday, in Oakland, where it is usually really chilly at this time, it was 81 degrees. So we are facing changes in the climate. And without getting into an argument over why or how, it doesn't matter, it is here, so we need to do something.

So I am talking to my chairman about looking at Desal, recycling, things that we really should encourage. I met with my Republican mayor of San Diego yesterday, whom I love, and he is pushing hard on Desal. They actually have a plant, I am going to go see it. It is working. It is expensive. We need to help them get the costs down.

I also think that we have to look at special bodies of water that are in trouble. The Salton Sea in California is an extraordinary iconic sea that had its heyday in the 1950s, and now, with the drought, it is in decline. And I won't go into it here because I don't want to take our time, except to say I will be working with colleagues to see if we can address the critical infrastructure needs, look at these water bodies that are in crisis, and work to create jobs that support commerce and protect public safety.

Mr. Chairman, it is a privilege to work with you on WRDA.

[The prepared statement of Senator Boxer was not received at time of print.]

Senator INHOFE. Thank you, Senator Boxer.

We will go ahead and start with Bob Portiss and just work our way down, and if you will submit to questions, we will look forward to it.

Bob Portiss. Let me introduce what he does. He runs our port there, the Port of Catoosa. For how many years now, Bob?

Mr. PORTISS. About a hundred.

[Laughter.]

Senator INHOFE. That is right. And I've been with you since the very beginning.

All right.

**STATEMENT OF BOB PORTISS, PORT DIRECTOR, TULSA PORT
OF CATOOSA**

Mr. PORTISS. Again, my name is Bob Portiss, and I have been affiliated with the Tulsa Port of Catoosa since 1973 and as its Port Director since July 1, 1984. Our port is located at the Head of Navigation for the 445-mile-long McClellan-Kerr Arkansas River Navigation System, located 15 miles from downtown Tulsa, Oklahoma. It is both an honor and privilege for me to appear before you today, especially since my long-time friend and our senior Senator is chairman. Senator Inhofe's numerous contributions to our industry and our port began in 1978, when he began his 6-year term as mayor of Tulsa.

Prior to passage of the Rivers and Harbors Act of 1946, which authorized construction of our waterway, Congress made it clear that before Federal moneys were invested in the new waterway the principal cities located along it would need to commit to develop a port to insure that business and industry would have access to barge transportation.

Tulsa fulfilled this commitment by acquiring its current 2,500 acres of contiguous land and developing it into one of our Nation's largest inland ports with its current complement, as Senator Inhofe mentioned, of 72 industrial facilities that, as of a year ago, employed 4,200 people and whose annual waterborne commerce averaged 2.5 million tons. Congress, in turn, agreed to construct and maintain our waterway with its 18 locks and dams to provide a minimum depth of 9 feet.

This partnership worked well until a few years ago when the backlog of maintenance reached an unprecedented \$170 million, \$70 million of which is now deemed critical by the Corps. As this backlog continues to increase so will the probability of lengthy failures. Recognizing this, we worked to include a provision in WRRDA 2014 that would allow us to partner with the Corps to help address such failures.

That provision, specifically, is section 1024, which authorizes the Secretary of the Army to accept materials and services from us to be used to repair and restore projects that were damaged or destroyed as a result of an emergency. Implementation guidance, however, has not yet been released for this section.

We are now very concerned because we understand that when the implementation guidance for this section is issued, it will be limited to emergencies resulting from a natural disaster.

The Corps has stated that they embrace the intent of section 1024, but have not found ways to overcome the legal constraints of the rules and regulations they must follow. In order to carry out section 1024 as intended, we believe that WRDA 2016 presents an opportunity for you to address any concerns that the Corps might have. In that regard, we would urge you to modify section 1024 of WRRDA 2014 to confirm that an emergency is not limited to natural disasters but includes failures resulting from a lack of maintenance. We would further recommend that authority to implement

this provision be delegated to the district commanders to ensure prompt action.

Our Nation's 25,000 miles of inland waterways handle over 600 million tons of cargo annually, at a cost typically \$11 cheaper than other modes. This amounts to an average annual savings of \$7 billion for our economy.

As to the impact on the central portion of our Nation, over 20 million bushels of grain from Kansas and Oklahoma wheat are shipped on our waterway annually to the Gulf of Mexico at a cost of about the same price as the price of a first-class postage stamp. Corresponding savings are realized for other commodities including project cargo that typically saves our shippers as much as \$100,000 per load. Last, but not least, more than 8,000 direct maritime jobs have been created along the McClellan-Kerr between Muskogee and Tulsa, Oklahoma, as a result of some \$5 billion of industrial investments. All of this is now at risk if we do not adequately maintain our waterway, something that we are ready and willing to help with.

One important answer to the critical needs of our Nation's waterway system is to make sure the Congress passes a WRDA bill in 2016 and every 2 years thereafter. The Congress made that commitment in WRRDA 2014, and we are very appreciative of this committee's leadership and commitment in working to develop a WRDA this year to ensure the reliability of the system and to build upon the reforms adopted in WRRDA 2014.

I also recognize that adequate funding needed to maintain our water resources infrastructure will continue to be a challenge. The Congress recognized this in WRRDA 2014 through several provisions that allowed for alternative funding mechanisms, including a public-private partnership model. WRDA 2016 presents an opportunity to further enhance and improve those provisions, which would enable us to overcome the current critical backlog that will ensure the reliability and sustainability of the MKARNS, and therefore our maritime ports. Given our ability to successfully work with our Corps Districts and Division, the partnership we have developed along our waterway may well serve as a model that can be looked upon nationwide.

I really appreciate and am honored to have this opportunity. Thank you very much, and I look forward to working with you as you develop a WRDA 2016.

[The prepared statement of Mr. Portiss follows:]



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Testimony of

**Robert W. Portiss
Port Director
Tulsa Port of Catoosa
5350 Cimarron Road
Catoosa, Oklahoma 74015**

**Before the
United States Senate
Committee on Environment and Public Works**

**Hearing on the Importance of
Enacting a New Water Resources Development Act
Wednesday, February 10, 2016
10 A.M. EST
406 Dirksen Senate Office Building**

My name is Bob Portiss. I have been affiliated with the Tulsa Port of Catoosa since 1973 and as Port Director since July 1st, 1984. Our Port is located at the Head of Navigation for the McClellan-Kerr Arkansas River Navigation System (MKARNS), 15 miles from downtown Tulsa, Oklahoma. It is both an honor and privilege for me to appear before you today—especially since my long time friend and our Senior Senator is Chairman. Senator Inhofe’s numerous contributions to our industry and our Port began in 1978 when he began his 6-year term as Mayor of Tulsa.

Prior to passage of the Rivers and Harbors Act of 1946, which authorized the building of the MKARNS, Congress made it clear that before federal monies were invested in the new Waterway the principal cities located along this new 445 mile long proposed waterway would need to commit to develop a port to insure that business and industry would have access to barge transportation. Tulsa fulfilled this commitment by acquiring its current 2500 acres of contiguous land and developing it into one of our Nation’s largest inland ports with its current compliment of 72 industrial facilities that, as of a year ago, employed 4200 people and whose annual waterborne commerce averaged 2.5 million tons. Congress, in turn, agreed to construct and maintain the MKARNS with its 18 locks and dams to provide a minimum depth of 9 feet.

This partnership worked well until a few years ago when the backlog of maintenance reached an unprecedented \$170 million, \$70 million of which is now deemed critical by the Corps of Engineers. The term “critical” is defined by the Corps to mean those items that have a greater than 50% chance of failing over the next 5 years. The stakeholders of the MKARNS, including non-federal public and private interests, have been alerting Congress to this problem ever since. As this backlog continues to increase so will the probability of lengthy failures. Recognizing this, the stakeholders along the MKARNS worked to include a provision in WRRDA 2014 that would allow us to partner with the Corps to help address such failures.

The provision that was enacted in WRRDA 14 is Section 1024. Section 1024 authorizes the Secretary of the Army to accept materials and services from non-federal stakeholders to be used to repair, restore and replace projects that were damaged or destroyed as a result of an emergency. Implementation guidance has not yet been released for this section, but we are pleased that the Corps’ Little Rock District held a table top exercise on November 19th, with stakeholders along the waterway, to discuss how to implement this provision.

The statutory language refers to an emergency. The Manager’s Report describes damage resulting from a major disaster, emergency, or other event. The Report also expresses concerns about lack of funding for operation and maintenance and failure of equipment.

We are concerned because we understand that when the implementation guidance for this section is issued, it will be limited to emergencies resulting from a natural disaster. So, for instance, if there's a flood event and lock gates fail, then this provision could be utilized to allow the non-federal stakeholders to contribute goods and services to repair them. If however, those same gates fail as a result of lack of maintenance, then the authority provided under this provision would not be available.

The Corps has stated that they embrace the intent of Section 1024, but have not found ways to overcome the legal constraints of the rules and regulations they must follow. In order to carry out Section 1024 as intended, we believe that WRDA 2016 presents an opportunity to address any concerns the Corps might have. In that regard, we would urge you to modify Section 1024 of WRRDA 2014 to confirm that an "emergency" is not limited to natural disasters but includes failures resulting from a lack of maintenance. We would further recommend that authority to implement this provision be delegated to the District Commanders to ensure prompt action.

Our Nation's 25,000 miles of inland waterways handle over 600 million tons of cargo annually—including agricultural products, petroleum, chemicals, coal, and iron and steel at a cost typically \$11 cheaper per ton than other modes. This amounts to an average annual savings of \$7 billion for America's economy—readily understood when considering that a typical 15 barge tow carries the equivalent of 216 rail cars or 1,050 semi-trailer trucks and generates fewer emissions than the other modes. Our Nation's commerce is projected to increase by over 14 billion tons over the next 20 years. If our waterways handle just 10% of this amount, its volume would triple—assuming it remains a viable mode of transportation.

As to the impact on the central portion of our Nation, over 20 million bushels of winter wheat are shipped on the MKARNS by barge from Kansas and Oklahoma to the Gulf of Mexico at a cost per bushel that approximates the price of a first class postage stamp. Corresponding savings are realized for other commodities including project cargo that typically saves our shippers an impressive \$100,000 per barge load. Last, but not least, more than 8,000 direct maritime jobs have been created along the MKARNS between Muskogee and Tulsa, Oklahoma as a result of some \$5 billion of industrial investments. All of this is at risk if we do not adequately maintain our waterway—something that we are ready and willing to help with.

One important answer to the critical needs of our Nation's waterway system is to make sure the Congress passes WRDA bill in 2016 and that it commits to moving this important legislation every two years thereafter. The Congress made that commitment in WRRDA 14 and we are very appreciative of this committee's leadership and commitment in working to develop a WRDA this year. WRDA is critical to ensuring the reliability of the

system through a consistent and routine authorization process that identifies needed improvements to its existing infrastructure and to build upon the reforms adopted in WRRDA 2014.

I also recognize that adequate funding needed to maintain our valuable water resources infrastructure will continue to be a challenge. The Congress recognized this in WRRDA 14 through several provisions that allowed for alternative funding mechanisms, including a public private partnership model. WRDA 16 presents an opportunity to further enhance and improve those provisions, and I would strongly recommend that you direct the Corps to implement those provisions to enable us to work jointly with them to develop alternative forms of financing to overcome the current critical maintenance backlog that will insure the reliability and sustainability of the MKARNS and therefore our maritime ports. Given our ability to successfully work with our Corps Districts and Division, the partnership we have developed along the MKARNS may well serve as a model that can be looked upon nationwide.

Thank you again for the opportunity to be here today. I would be happy to answer any questions you may have and I look forward to working with the Committee as you develop a WRDA for 2016.

Senator INHOFE. Thank you, Mr. Portiss.

John Swearingen is the Senior Vice President of Marathon Petroleum Corporation.

Mr. Swearingen.

**STATEMENT OF JOHN SWEARINGEN, SENIOR VICE
PRESIDENT, MARATHON PETROLEUM CORPORATION**

Mr. SWEARINGEN. Good morning, Chairman Inhofe, Ranking Member Boxer, and members of the Committee. My name is John Swearingen, and I am the Senior Vice President of Transportation and Logistics at Marathon Petroleum. Thank you for the opportunity to share our story about the importance of a strong 21st century energy transportation system.

Such infrastructure plays a critical role in our company's ability to continue to safely deliver affordable petroleum products to American consumers. Marathon Petroleum is headquartered in Findlay, Ohio, and with our seven plant refining network, we are the Nation's fourth largest transportation fuel manufacturer. We are also one of the largest marketers and transporters of petroleum products in the U.S.

A key part of our business is our inland river fleet, which is one of the largest private domestic fleets of inland petroleum product barges in the U.S. Our fleet consists of 219 inland waterway towboats and barges that we wholly own, accompanied by another 22 towboats and barges which are leased. We also have another 30 boats and 100 barges under contract with third parties.

Our fleet carries products primarily on the Ohio River between Pittsburgh and Paducah, Kentucky. Other movements are also regularly scheduled on the Mississippi, Illinois, Allegheny, Monongahela, Kanawha, Tennessee and Cumberland Rivers. All of these river systems have locks and dams built and maintained by the U.S. Army Corps of Engineers. We also own distribution storage facilities throughout the South and Midwest, which are also accessed via water.

Just recently, the U.S. became the No. 1 producer of oil and natural gas, and we are a net exporter of refined products. This has made energy more affordable and our country more energy secure. In order for Americans to fully realize the benefit of this abundant and affordable energy, investments in energy transportation infrastructure are absolutely critical.

Moving commodities by barge and tanker is extremely efficient. For example, moving the amount of liquid volume on just five 8-barge towboats is equivalent to moving the same volume over the road with 5,000 semi-tractor trailers. However, inadequate investment can minimize these efficiencies and result in bottlenecks in commerce.

Unscheduled and unplanned lock outages, like those we have experienced on the Ohio River over the past decade, are extremely disruptive and lead to increased cost of everyday products, commodities, and raw materials for the end consumer. Nearly 40 percent of all domestic waterborne trade is crude oil or petroleum products, and 40 percent of the crude oil arriving at refineries is being shipped via water. Therefore, the longer it takes for a ship-

ment to arrive due to backlogs at locks and dams, the more expensive petroleum products will become.

It is well known the Army Corps of Engineers has billions of dollars of deferred maintenance activities due to insufficient funding. These maintenance projects are critical to our industry's operation. Today we functionally have a fix-as-fail posture when it comes to our inland waterway infrastructure. We cannot afford to move toward a fail-to-fix posture.

Congress has already taken a number of positive steps forward in the long road toward recovery. The 2014 WRDA bill established a framework for authorizing full distribution of the revenues paid by the inland towing industry into the Harbor Maintenance Trust Fund. We appreciate that Congress included this provision and appropriated the authorized amounts last year. We now encourage Congress to maintain the WRDA authorized distribution levels and to appropriate the authorized amount of 71 percent of Trust Fund revenues expected for fiscal year 2017.

We also encourage Congress to appropriate the \$3.1 billion in the operations and maintenance account for the Army Corps of Engineers and further appropriate the full use of the Inland Waterways Trust Fund, which is based on a 29 cents per gallon user fee assessed on vessels operating on the inland system.

Last, there is currently a near final feasibility study for the Pittsburgh area to modernize Emsworth, Dashiels, and Montgomery Locks and Dams. This study has been under development for more than 12 years and has cost more than \$17 million. We strongly encourage the committee to authorize the Upper Ohio River Navigation Study in the 2016 WRDA bill.

Marathon Petroleum Corporation stands ready to work with the Senate Environment and Public Works Committee as well as other committees of jurisdiction and appropriators. We are a willing partner in the effort to build and maintain a 21st century energy infrastructure network. The American public deserves no less. Thank you.

[The prepared statement of Mr. Swearingen follows:]

U.S. Senate
Committee on Environment and Public Works
Testimony of John Swearingen
Senior Vice President, Transportation and Logistics
Marathon Petroleum Corporation
February 10, 2016

Marathon Petroleum is headquartered in Findlay, Ohio, and with our seven-plant refining network, we are the nation's fourth-largest transportation fuel manufacturer. We are also one of the largest marketers and transporters of petroleum products in the US. A key part of our business is our inland river fleet, which is one of the largest private domestic fleets of inland petroleum product barges in the US. Our fleet consists of 219 inland waterway towboats and barges that we wholly own, accompanied by another 22 towboats and barges which are leased. We also have another 30 boats and 100 barges under contract with third parties. Our fleet carries products primarily on the Ohio River between Pittsburgh and Paducah, Kentucky. Other movements are also regularly scheduled on the Mississippi, Illinois, Allegheny, Monongahela, Kanawha, Tennessee, and Cumberland rivers. All of these river systems have locks and dams built and maintained by the US Army Corps of Engineers. We also own distribution storage facilities throughout the Midwest and South, which are also accessed via water. Just recently the US became the number-one producer of oil and natural gas, and we are a net exporter of refined products. This has made energy more affordable and our country more energy secure. In order for Americans to fully realize the benefit of this abundant and affordable energy, investments in energy transportation infrastructure are absolutely critical.

Moving commodities by barge and tanker is extremely efficient. For example, moving the amount of liquid volume on just five 8-barge towboats is the equivalent of moving the same volume over the road with 5,000 semi-tractor trailers. However, inadequate investment can minimize these efficiencies and result in bottlenecks in commerce.

Unscheduled and unplanned lock outages, like those we have experienced on the Ohio River over the past decade, are extremely disruptive and lead to increased costs of everyday products, commodities, and raw materials for the end consumer. Nearly 40 percent of all domestic waterborne trade is crude oil or petroleum products, and 40 percent of the crude oil arriving at refineries is being shipped via water. Therefore, the longer it takes for a shipment to arrive due to backlogs at locks and dams, the more expensive petroleum products will become.

It is well-known the Army Corps of Engineers has billions of dollars of deferred maintenance activities due to insufficient funding. These maintenance projects are critical to our industry's operations. Today, we functionally have a "fix as fail" posture when it comes to our inland waterway infrastructure; we cannot afford to move towards a "fail to fix" posture.

Congress has already taken a number of positive steps forward in the long road toward recovery. The 2014 WRDA bill established a framework for authorizing full distribution of the revenues paid by the inland towing industry into the Harbor Maintenance Trust Fund. We appreciate that Congress included this provision and appropriated the authorized amounts last year. We now encourage Congress to maintain the WRDA authorized distribution levels, and to appropriate the authorized amount of 71 percent of Trust Fund revenues expected in Fiscal Year 2017. We also encourage Congress to appropriate the 3.1 billion dollars in the operations and maintenance account for the Army Corps of Engineers, and further appropriate the full use of the Inland Waterways Trust Fund, which is based on a 29-cents-per-gallon user fee assessed on vessels operating on the inland system. Lastly, there is currently a near final feasibility study for the Pittsburgh area to modernize Emsworth, Dashields, and Montgomery Locks and Dams. This study has been under development for more than 12 years, and has cost more than 17 million dollars. We strongly encourage the Committee to authorize the Upper Ohio River Navigation Study in the 2016 WRDA bill.

Marathon Petroleum Corporation stands ready to work with the Senate Environment and Public Works Committee, as well as other committees of jurisdiction and appropriators. We are a willing partner in the effort to build and maintain a 21st century energy infrastructure network. The American public deserves no less.

Senator INHOFE. Thank you, Mr. Swearingen.

Rob Roberson is the Director of Corporate Logistics at Nucor Corporation.

Mr. Roberson.

STATEMENT OF ROB ROBERSON, DIRECTOR OF CORPORATE LOGISTICS, NUCOR CORPORATION

Mr. ROBERSON. Good morning, Chairman Inhofe and Ranking Member Boxer. Thank you for the opportunity to testify today. As the Chairman said, I am Rob Roberson, Director of Corporate Logistics for Nucor Corporation.

Nucor is the Nation's largest steel manufacturer and recycler, with the capacity to produce almost 29 million tons of steel annually. Last year, the company recycled nearly 17 million tons of scrap steel and turned it into new steel that is used in construction, automotive, and energy applications, just to name a few. We are a company of over 23,000 teammates, located primarily in the U.S. and Canada.

Inland waterways and ports are an essential part of our Nation's transportation system and economy, creating jobs and revenue regionally and nationally. As a company that relies on just-in-time delivery of products to our customers, an efficient transportation infrastructure is vitally important. Waterway infrastructure is not only important for moving finished steel products to market, but also for bringing raw materials to our steel mills. We have several steel mills located on rivers which bring in more than 90 percent of their raw materials by water. Nucor's scrap steel business, The David J. Joseph Company, transports approximately 3,500 barges per year. Barges provide a safe, efficient, environmentally friendly and cost-effective way to move goods.

In order for the U.S. to remain economically competitive, we must continue to invest in our ports and inland waterways. Every barge we utilize can move up to 1,700 net tons of raw material or product. This is the equivalent of 17 railcars, or almost 80 trucks. When we fail to adequately maintain our ports and inland waterways, companies like ours are forced to use more costly and less efficient shipping alternatives, which threatens our ability to deliver goods to our customers in a cost-effective manner, a key competitive strength of our company for almost 50 years.

A well-functioning inland waterways and port system also gives Nucor access to an effective distribution channel to fight against surging steel imports that have crippled much of the domestic steel industry.

The American steel industry is in crisis. A glut of global steel production has led to the dumping of steel into the U.S. market at historic levels and in violation of international trade rules. Despite the highest level of domestic steel consumption since 2006, less efficient foreign producers are benefiting, not domestic producers. Due to unfairly traded imports, the American steel industry's capacity utilization in 2015 was less than 70 percent, and pricing for most steel products collapsed.

To help fight the import surge and to better serve the needs of our customers, Nucor is expanding our capabilities to produce higher quality offerings. We recently invested \$100 million to modernize

our South Carolina mill in order to produce wider and lighter sheet steel for the automotive industry. The ability to use our ports and our waterways as a means to provide the most competitive freight solution to the market gives us an advantage over our foreign competitors.

For these reasons, we appreciate the action Congress took in 2014 passing the Water Resources and Reform Development Act, and we are pleased Congress is getting an early start on the next WRDA reauthorization.

The 2014 legislation made many important changes to the way water infrastructure projects are approved and funded. That bill helped streamline project approval by removing redundant studies and expediting permits. It also recognized the importance of funding for harbor maintenance and the dredging of inland waterways. We were pleased that the legislation also encouraged the use of resilient construction techniques and materials. The 2016 reauthorization can build on these changes and address several issues that have emerged since the last WRDA bill was passed.

The last WRDA legislation included Buy America provisions in the newly created WIFIA program and permanently applied Buy America to the EPA's Clean Water State Revolving Fund projects. We would like to see these provisions permanently applied to the EPA's Drinking Water State Revolving Fund in the upcoming reauthorization. We believe that it is good policy to apply Buy America preferences to taxpayer-funded programs, particularly those administered by the EPA, which heavily regulates domestic industries. This will help stimulate job growth in the iron and steel industries and encourage research and development and capital investment here at home.

Regular investment will ensure our waterway infrastructure remains competitive and our economy will continue to grow, and we appreciate the work this committee will undertake to reauthorize WRDA. We also encourage appropriators to follow through with funding to ensure that the merits of WRDA 2016 are fully achieved.

Since 2009, Nucor has invested over \$6 billion in our U.S. facilities because we believe so strongly in the American economy and American workers. We want to continue investing here in America. We need Congress' help to ensure a competitive environment here at home that allows domestic steel producers to realize the benefits of a growing U.S. economy.

Thank you.

[The prepared statement of Mr. Roberson follows:]

**Senate Environment & Public Works Committee
Water Resources Development Act 2016
Testimony of Rob Roberson
Nucor Corporation
February 10, 2016**

Chairman Inhofe and Ranking Member Boxer, thank you for the opportunity to testify today. I am Rob Roberson, Director of Corporate Logistics for Nucor Corporation.

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Regular investment will ensure our waterway infrastructure remains competitive and our economy will continue to grow, and we appreciate the work this Committee will undertake to reauthorize WRDA. We also encourage Appropriators to follow through with funding to ensure that the merits of WRDA

2016 are fully achieved. Since 2009, Nucor has invested over 6 billion dollars in our U.S. facilities because we believe so strongly in the American economy and American workers. We want to continue investing here in America. We need Congress' help to ensure a competitive environment here at home that allows domestic steel producers to realize the benefits of a growing U.S. economy.

Thank you.

Senator INHOFE. Thank you, Mr. Roberson.
 Norma Jean Mattei is President-Elect of American Society of Civil Engineers.
 Dr. Mattei.

**STATEMENT OF NORMA JEAN MATTEI, PRESIDENT-ELECT,
 AMERICAN SOCIETY OF CIVIL ENGINEERS**

Ms. MATTEI. Good morning, Chairman Inhofe, Ranking Member Boxer, committee members and staff. Thank you for this invitation. My name is Norma Jean Mattei, and I am a professional engineer in the State of Louisiana, I am Professor of Civil Engineering at the University of New Orleans; I am a member of the Mississippi River Commission. But I am here today as President-Elect of the American Society of Civil Engineers.

The American Society of Civil Engineers has over 150,000 civil engineers globally. We are well known, as Senator Boxer mentioned, for our report card. This is our 2013 report card on America's infrastructure. It is a comprehensive document that takes a look at assessing 16 sectors of infrastructure across the Nation. We are about to work on our 2017 report card, just as you are working on WRDA 2016, and we are hoping that this important work that you do will raise the grades, because let me tell you about the grades.

Our 2013 report card gave a grade overall to our infrastructure of D+. When you look at levees, a D-; inland waterways D-; dams a D; drinking water a D; wastewater a D; ports a C.

[Laughter.]

Those grades really aren't that good, are they? So, frankly, I am going to steal a line from a fellow professor and GM of D.C. Water: "We sometimes give people Ds because it is just too hard to flunk them."

If we don't invest in our infrastructure, the U.S. risks losing competitiveness, we risk losing jobs; it costs our Government and it cost the American family. In our Failure to Act economic report we assess long-term economic impacts of not properly investing in our infrastructure. The report concludes that our Nation's deteriorating ports and inland waterways infrastructure will cost the American economy more than 800,000 jobs and suppress the growth of our GDP by a little less than \$7 billion in 2020.

But we know that flood control projects, as an example, have a return on investment of between 4 and 20, and sometimes more, times their cost. It's not only a good return on investment; it is simply good fiscal responsive policy.

WRDA bills are powerful; they are important. More than 20 years ago, Congress authorized the National Dam Safety Program. WRRDA 14 reauthorized that program, and it also created a new national levee safety initiative. Let's talk about the dams.

We now know that we have an inventory nationally of over 87,000 dams. We assess their condition. We know how they are doing; we know their age. Their average age is about 54 years. That is about as old as me. And some of them are older than me. We now provide training to State dam safety programs.

With increasing population and greater development below those dams, we continued to see the numbers of high hazard dams in-

crease to nearly 14,000 in 2012. The deficient dams number about 4,000, and unfortunately, 2,000 of those are high hazard also.

I couldn't tell these numbers to you, we wouldn't know them but for WRDA. So an authorization is very, very important to public safety programs.

Unfortunately, the levee side of the story is very different. While the dam safety program has been 20 years old, it wasn't until 2014 that Congress authorized the first program to inventory levees. The sad truth is we have not invested a single dollar into that program. So levees and dams, we don't really want to see those things fail. We use them every day, but the public does not really see the benefit until we have a disaster. They protect billions of dollars of property and hundreds of thousands of families. But we simply struggle today with maintaining this infrastructure, let alone building new and modernized sustainable infrastructure.

I have an example, though, of where we did build something that is state-of-the-art. I live in New Orleans, and because of a disaster, the Hurricane Storm Surge and Risk Reduction System outside of New Orleans is remarkable. But it was completed because there was a sense of urgency, there were enough funds appropriated, and there was a project delivery process that worked. If these investments are not made in conjunction with policy reforms, families will have a lower standard of living. Our Nation will lose ground in the global economy. As conditions continue to deteriorate, we estimate that the cost to American families alone each year is a little over \$3,000.

We look forward to working with the committee as it drafts this new legislation. Pay special attention to alternate financing, multiple project benefits and ecosystem restoration. New legislation this Congress will give regular order again; it will allow project managers certainty, the ability to plan.

And finally, in a few weeks, members from 50 States of our organization will come to D.C. to meet with you, so please take the time to meet with these experts in infrastructure. They will be able to give you some information and more details on the state of our infrastructure and how important investment is to us.

[The prepared statement of Ms. Mattei follows:]



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TESTIMONY OF
Norma Jean Mattei, P.E., M.ASCE
ON BEHALF OF
THE AMERICAN SOCIETY OF CIVIL ENGINEERS
BEFORE THE
ENVIRONMENT AND PUBLIC WORKS COMMITTEE
UNITED STATES SENATE
ON
THE WATER RESOURCES DEVELOPMENT ACT
FEBRUARY 10, 2016

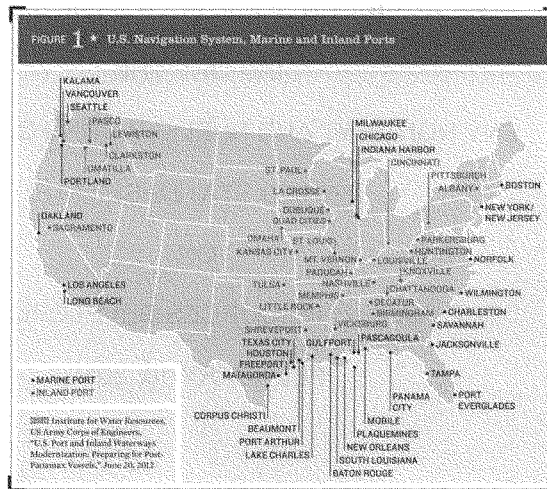
Chairman Inhofe, Ranking Member Boxer, and Members of the Committee:

It is an honor for me to appear before this committee on behalf of the American Society of Civil Engineers (ASCE)¹ to discuss the importance of water resources projects to our nation's overall economic health.

ASCE commends the Environment and Public Works Committee for holding a hearing today on the Water Resources Development Act (WRDA) and for continuing to make the legislation a priority in the 114th Congress. The Society is pleased to present to the Committee our views on the state of our nation's water resources infrastructure and to express the impact that ignoring capital improvement, operations and maintenance has on the nation's ability to compete in a global economy. In addition we are pleased to offer our views on innovative financing and the need to continuing being both stewards of the built and natural environment as we design, build and construct our nation's infrastructure. A Water Resources Development Act that fosters economic growth, job creation and the built environment will allow the nation to remain competitive and sustainable in the Twenty-First Century.

THE IMPACT OF UNDER-INVESTING IN OUR NATION'S PORTS AND INLAND WATERWAYS

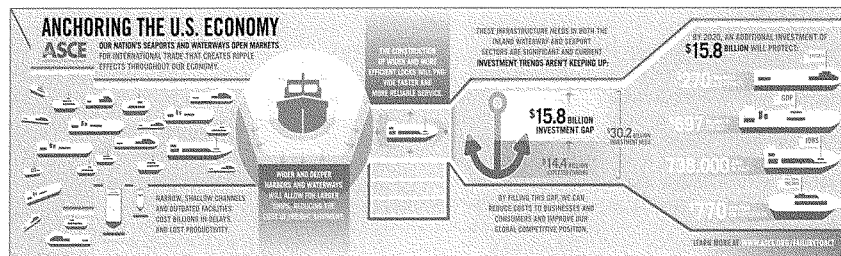
The United States has 300 commercial ports, 12,000 miles of inland and intra-coastal waterways and about 240 lock chambers, which carry more than 70 percent of U.S. imports by tonnage and just over half of our imports by value. In 2013, ASCE gave the nation's waterways infrastructure an overall grade of "D+" due to the age of many facilities and the fact that the current system of inland waterways lacks resilience. To remain competitive on a global scale, U.S. marine ports and inland waterways will require investment in the coming decades beyond the \$14.4 billion currently expected. Thankfully, with the 2014 passage of WRRDA and updates to the Harbor Maintenance Trust Fund, ports and harbors across the country can now count on an assured revenue stream to address their dredging needs. Additionally, WRRDA changes made to the Inland Waterway Trust Fund and an increase to diesel barge tax will help add and reallocate precious dollars to ensure a more robust and equitable



¹ ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents 150,000 civil engineers individually in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a non-profit educational and professional society organized under Part 1.501(c) (3) of the Internal Revenue Code.

distribution of funds. We applaud the Committees work to update these two important infrastructure funds in WRRDA 2014.

According to ASCE's 2012 *Failure to Act*² economic study on the nation's marine ports and inland waterways, aging infrastructure for marine ports and inland waterways threatens more than 1 million U.S. jobs. Additionally, between now and 2020, investment needs in the nation's marine ports and inland waterways sector will total \$30 billion, while planned expenditures are only about \$14 billion, leaving a total, federal, investment gap of nearly \$16 billion over the upcoming years. However, the costs attributable to delays in the nation's inland waterways system were \$33 billion in 2010. These costs reverberate throughout the economy given the heavy reliance of energy inputs like petroleum and coal on inland waterway transportation. Furthermore, this cost is expected to increase to nearly \$49 billion by 2020. These costs are large, and do not even address the landside connections or the "inside the fence" infrastructure that is the responsibility of the port authority. Therefore, the nation will either need to pay for much needed investments in the nation's ports and harbors now, or will pay more severely in lost labor, lost exports, and lost GDP down the road.



The nation's marine ports and inland waterways have historically been the critical links that make international commerce possible. However, with the scheduled expansion of the Panama Canal by 2015, the average size of container ships is likely to increase significantly, affecting the operations of those major U.S. ports that handle containerized cargo. Currently, many of those U.S. ports will still require significant infrastructure upgrades to handle the larger ships and therefore remain competitive. The needed investment in marine ports will include harbor and channel dredging, while inland waterways will require new or rehabilitated lock and dam facilities.

TABLE 16★ Lost Trade Due to the Gap in Inland Waterways and Marine Ports Investments (in billions of 2010 dollars)

YEAR OR PERIOD	EXPORTS	IMPORTS	TOTAL TRADE
2020	-42.8	-20.5	-63.3
2040	-141.6	-63.6	-205.2
2012-20	-270.1	-157.4	-427.5
2021-40	-1,711.8	-775.6	-2,487.4
2012-40	-1,981.9	-933.0	-2,914.9

SOURCES: EYR Group and LIFT model, University of Maryland, INFORUM Group, 2012.

² www.asce.org/failuretoact

If the nation makes an additional investment of \$15.8 billion between now and 2020, the U.S. can eliminate the current drag on economic growth and protect:

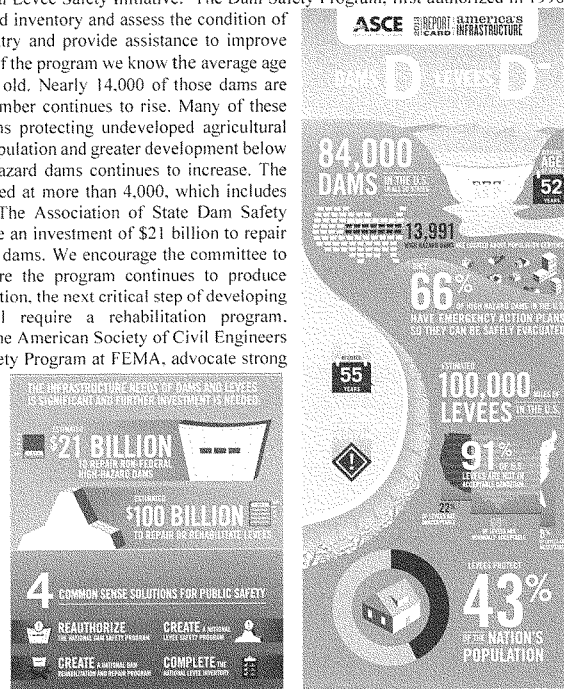
- \$270 billion in U.S. exports.
- \$697 billion in GDP.
- 738,000 jobs in 2020.
- \$872 billion in personal income, or \$770 per year for households.

Unless America's infrastructure investment gaps are filled, transporting goods will become costlier, prices will rise, and the United States will become less competitive in the global market. As a result, employment, personal income, and GDP will all fall.

ENSURE THE SUCCESS OF THE NATIONAL DAM SAFETY PROGRAM AND LEVEE SAFETY INITIATIVE

In the Water Resources Reform and Development Act of 2014, Congress reauthorized the National Dam Safety Program and stood up a new National Levee Safety Initiative. The Dam Safety Program, first authorized in 1996 has for more than two decades helped inventory and assess the condition of nearly 84,000 dams across the country and provide assistance to improve state dam safety programs. Because of the program we know the average age of dams in this country is 52 years old. Nearly 14,000 of those dams are considered high-hazard, and that number continues to rise. Many of these dams were built as low-hazard dams protecting undeveloped agricultural land. However, with an increasing population and greater development below dams, the overall number of high-hazard dams continues to increase. The number of deficient dams is estimated at more than 4,000, which includes 2,000 deficient high-hazard dams. The Association of State Dam Safety Officials estimates that it will require an investment of \$21 billion to repair these aging, yet critical, high-hazard dams. We encourage the committee to use its oversight authority to ensure the program continues to produce important life-safety benefits. In addition, the next critical step of developing robust dam safety processes will require a rehabilitation program. Organizations such as ASDSO and the American Society of Civil Engineers (ASCE), with the National Dam Safety Program at FEMA, advocate strong state and federal programs, promote awareness of the need for improvement of the nation's infrastructure, and support federal legislation to launch a dam rehabilitation financing program.

WRDA 2014 also created a National Levee Initiative, which, once funded will begin the same process the dam infrastructure underwent 20 years ago. It is estimated that there are 100,000 miles of levees in the U.S. Currently only about 10% of levees



have been inventoried and assessed. The Levee Safety Initiative provides the mechanism to expand the inventory and assessment process. We encourage the committee to continue its oversight and provide any additional policy changes or resources necessary to ensure the success of this program.

EXPLORE ALTERNATIVE FINANCING

In the Water Resources Reform and Development Act of 2014, Congress authorized the Army Corps of Engineers to study the feasibility of partnering with the private sector to deliver projects through alternative methods. ASCE recognizes and supports Public Private Partnerships (PPPs) as one of many methods of financing and delivering infrastructure improvements. ASCE supports the use of the P3 project delivery method when federal, state, or local funding is not available to address capacity or safety issues in a timely manner and the public interest is protected. Any public revenue derived from PPPs must be dedicated exclusively back to comparable infrastructure facilities in the state or locality where the project is based. Revenue and assessment of revenue should be reported annually to the general public in a public forum available to access by all. We also recommend that P3 contract's includes at a minimum performance criteria that address long-term viability, life cycle costs, return on public and private investment, takeover and turnback, projected yearly revenue, identification of responsible parties and their roles, and residual value. Transparency is a key element in all aspects of contract development, project implementation and any subsequent operation. PPPs can be an effective method of project financing and delivery. PPPs do not replace the need for public funding of infrastructure projects. ASCE supports the use of PPPs only when the public interest is protected and where professional engineers serve in responsible positions of authority regarding engineering to further safeguard the public interest.

MAXIMIZE MULTIPLE CO BENEFITS OF PROJECTS

ASCE supports and encourages project sponsors to survey co benefits that can be achieved by looking beyond a singular authorized purpose. For example, ASCE supports the use of beneficial use of dredged material. The federal government should revise its methodology for economic analysis of dredging costs to reflect gaining the benefits of using dredged material for coastal protection, environmental stewardship and other beneficial uses as well as to avoid disposal costs. Government and private entities that develop and execute projects requiring dredging be stewards for the beneficial use of dredged material. Dredged material be managed as a resource using life-cycle dredged material management plans that consider regional sediment management needs; dredging frequencies, locations, and quantities; as well as landscape use and change. Contaminated sediments, considering the contaminant and degree of contamination, be evaluated for selected beneficial uses. Any dredging plan includes a comprehensive monitoring plan that considers site requirements, beneficial uses, and environmental impacts.

Issue

RESTORE THE ENVIRONMENT

Too often the built environment can cause adverse impacts on the natural environment. Civil engineers have the training and tools necessary to ensure that projects meet their intended purpose, but do so in a manner that pays particular attention to ecosystem values. ASCE is working with members to update best practices for storm water management, flood control and coastal protection infrastructure. ASCE is focused on few issues in particular that are relevant to WRDA:

- Ensuring green infrastructure practices are fully considered in storm water management plans
- Revisiting flood control structures to maximize environmental benefits (for example, studying the potential environmental benefits of restoring wetlands in southern Louisiana using large scale sediment diversions)
- Promoting the use of shoreline protection that incorporate multiple lines of defense³, including the use of living shorelines, natural infrastructure and resilient construction practices.

³ See John Lopez, *The Multiple Lines of Defense Strategy to Sustain Coastal Louisiana, Lake Pontchartrain Basin Foundation, 2006.*

CONCLUSION

In conclusion, ASCE applauds the Senate Environment and Public Works Committee for taking strides to address our nation's aging water resources. In the 2017 Report Card ASCE will once again grade the nation's infrastructure. WRDA bills provide an important opportunity to help raise the grades.

Deferring water resource projects creates costs that reverberate throughout our economy, causing exports and GDP to fall, threatening U.S. jobs, causing a drop in personal income, and putting vessel operators at increased risk. ASCE urges Congress to continue working on WRDA bill every two years. A two year cycle provides certainty to project sponsors, keeps the price tag of the legislation manageable and can cut down on the backlog of projects. ASCE looks forward to working with the Senate Environment and Public Works Committee as you move forward on this legislation.

Thank you, Senator Inhofe. This concludes my testimony. I would be pleased to answer any questions.

Senator INHOFE. Thank you, Dr. Mattei.

Kyle Makarios is the Director of Government Affairs, North Central States Regional Council of Carpenters.

Mr. Makarios.

STATEMENT OF KYLE MAKARIOS, DIRECTOR OF GOVERNMENT AFFAIRS, NORTH CENTRAL STATES REGIONAL COUNCIL OF CARPENTERS

Mr. MAKARIOS. Thank you, Chairman Inhofe, Ranking Member Boxer, distinguished members of this committee. I am honored to join you today. My name is Kyle Makarios, and I am the Director of Government Affairs for the North Central States Regional Council of Carpenters. My union represents 25,000 carpenters, millwrights, pile drivers, and floor coverers in Wisconsin, Iowa, Minnesota, Nebraska, South Dakota, and North Dakota. I also serve on the Board of the Upper Mississippi Waterways Association, a Minnesota-based association of businesses who rely on reliable navigation on the Mississippi River to move goods.

The United Brotherhood of Carpenters and Joiners of America, my national union, represents over a half-million men and women who make their living building our Nation. Many of those members are employed building the projects directly under the purview of this committee, the public works and infrastructure projects that connect our country internally and to the world. Along with several other crafts, including operating engineers and laborers, our members perform the bulk of the heavy construction and maintenance of the Nation's ports and waterways, locks, and dams. Every day across this country, thousands of our members go to work for hundreds of construction contractors building and providing maintenance on locks and dams and keeping our key navigation channels open.

I am here today to assure this committee that enacting a new Water Resources Development Act is very important to our Nation's construction workers and the businesses who hire them, as well as those that are part of our supply chain. Previous enactments of WRDA have authorized projects that are currently putting thousands of our members to work, and more steps are needed to continue to upgrade and modernize the navigation potential of our country's inland waterways.

As you just heard, the American Society of Civil Engineers' 2013 Report Card for America's Infrastructure points out the dramatic need to increase investment in order to ensure reliable, efficient movement of commodities in this country. I applaud the bipartisan effort that this committee has helped lead—both in this Congress and in the previous—to address this urgent need to upgrade both surface and waterways transportation infrastructure.

Not only is enacting a new Water Resources Development Act important to our members who work directly on heavy construction and civil works projects, but it is equally important to many other members. Farmers and businesses rely on a reliable and efficient transportation network to get goods to market. A barge leaving my home town of Saint Paul, Minnesota, must travel through 27 lock chambers to get downriver to the Port of New Orleans. It is critically important for the economy of States along the Upper Mis-

Mississippi River that those businesses and farmers have a high degree of confidence in that system so that they can continue to employ our members building and maintaining their grain elevators, steel mills, manufacturing plants, power generation facilities, cement plants, oil refineries, and hundreds of other businesses that rely on river transportation.

As the committee considers reauthorization of the Water Resources Development Act, I would respectfully voice support for a couple of key policy initiatives being advocated by the Waterways Council, Inc., a national coalition of which we are a member. We support increasing the existing threshold defining a major rehabilitation project from \$20 million to \$50 million, and authorizing the Calcasieu Lock, Louisiana, and the Upper Ohio River Chief's Reports.

We also recognize and applaud the waterways industry's successful advocacy for an increase in their own user fee on fuel that was implemented by the last WRDA and oppose additional fees on the waterways at this time. But it is very certain that Congress should maximize the investment levels in these projects in order to put our members and other construction workers to work.

Mr. Chairman, let me wrap up by reiterating that Congress, and this committee in particular, can serve a critical need for this country by leading a bipartisan effort to ensure that our Nation's inland waterways remain a reliable and cost-effective route for moving bulk commodities to and from the businesses and farms in our communities. In doing so, you will directly employ many thousands of construction workers and give confidence to private business whose investments will employ many thousands more.

Thank you for the opportunity to comment.

[The prepared statement of Mr. Makarios follows:]

Testimony of

Kyle Makarios

North Central States Regional Council of Carpenters

Hearing Before the U.S. Senate Committee on Environment and Public Works:

“The Importance of Enacting a New Water Resources Development Act”

February 10, 2016

Chairman Inhofe, Ranking Member Boxer, distinguished members of the Environment and Public Works Committee, I am honored to join you today. My name is Kyle Makarios and I am the Director of Government Affairs for the North Central States Regional Council of Carpenters. My union represents 25,000 Carpenters, Pile Drivers, Millwrights and Floor Coverers in Wisconsin, Iowa, Minnesota, Nebraska, South Dakota, and North Dakota. I also serve on the Board of the Upper Mississippi Waterways Association, a Minnesota-based association of businesses who rely on reliable navigation on the Mississippi River to move goods.

The United Brotherhood of Carpenters and Joiners of America, my national union, represents over a half million men and women who make their living building our Nation. Many of those members are employed building the projects directly under the purview of this committee – the public works and infrastructure projects that connect our country internally and to the world. Along with several other crafts including operating engineers and laborers, our members perform the bulk of the heavy construction and maintenance of the nation’s ports and waterways, locks, and dams. Every day across the country, thousands of our members go to work for hundreds of construction contractors building and providing maintenance on locks and dams and keeping our key navigation channels open.

I’m here today to assure this Committee that enacting a new Water Resources Development Act is very important to our Nation’s construction workers and the businesses who hire them as well as those that are part of our supply chain. Previous enactments of WRDA have authorized projects which are currently putting thousands of our members to work, and more steps are needed to continue to upgrade and modernize the navigation potential of our country’s inland waterways. As you will hear in other testimony today, the American Society of Civil Engineers’ 2013 Report Card for America’s Infrastructure points out the dramatic need to increase investment in order to ensure reliable, efficient movement of commodities in this country. I applaud the bipartisan effort that this committee has helped lead, both in this Congress and in the previous, to address this urgent need to upgrade both surface and waterways transportation infrastructure.

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Thank you for the opportunity to comment.

Senator INHOFE. Thank you, Mr. Makarios.

We will now have questions. And I think it would be very important, all of the members of the panel stress this every 2 years to have one. As I mentioned before, we went 7 years the one before last without having one. That is very important. So it is important that your members be aware to use their influence on members to make this very popular program, and I say the same thing to all of you.

Mr. Portiss, Mr. Swearingen talked about the bottleneck that can happen on the waterways, and that is a frightening thing. Every time I look at one of our locks and dams, I think what more is that going to affect.

What would be the financial loss to the State of Oklahoma if a lock failure closed the McClelland-Kerr?

Mr. PORTISS. Excellent question, sir. Thank you. Two million dollars a day would be the hit on our State if that waterway were to shut down. We determined that through an input-output analysis about 6 years ago; and that is just the economic loss as far as the State as a whole is concerned. But the investment by the citizens of city of Tulsa and Rogers County, gone; no more waterway. We would have a nice industrial park, but no port.

Senator INHOFE. You spent some time in your testimony talking about the thing that we put in the last WRDA bill that allows other people to get involved financially to help, and the interpretation by the Corps of Engineers seemed to be that it has to be a result of a natural disaster. Is that accurate?

Mr. PORTISS. That is correct. Right.

Senator INHOFE. Did you think at the time, when we added that language, that that would be the problem, that would happen?

Mr. PORTISS. Absolutely not.

Senator INHOFE. I didn't either. I would ask you this question. What difference does it make if it is using outside Government resources to do something, to make an approval on a public project, whether that resulted from a natural disaster or otherwise?

Mr. PORTISS. Senator, it shouldn't make any difference at all. If you have an emergency situation occur or we have a failure, goodness sakes, why can't we step in and provide and help them with resources they don't have to fix the problem? I am not talking about long-term; I am just talking about putting a Band-Aid on it, so to speak, so that the waterway can continue to operate.

Senator INHOFE. Do the rest of you agree with that? I am talking to the rest of them now.

Did you agree, Mr. Swearingen? Did you believe that that is the way it would be interpreted when that language went in?

Mr. SWEARINGEN. Yes, Senator. I think it is important, though, anything the committee can do to incentivize the Army Corps of Engineers to maintain the infrastructure. We have seen a number of situations up and down the Ohio River where gates have failed to function, and we have been stopped for 50, 60 days at a cost of millions of dollars. There was one lock where the gate literally fell off that took months to repair. So I think anything that the committee can do that would incentivize the Corps to maintain and do the proactive maintenance that is necessary to avoid the significant maintenance outages I think is well served.

Senator INHOFE. That is not my question, though. My question is, in the absence of that, we should take full advantage of what is out there, outside of Government, to put the Band-Aid on, to keep everything moving. That is the concern that I have.

Mr. SWEARINGEN. I think any kind of resourcing needs to be brought to bear on the issue, yes, sir.

Senator INHOFE. How, Mr. Swearingen, would your companies and your customers be affected if you couldn't use the waterway to ship your fuel, steel, and other products that you make?

Mr. SWEARINGEN. Many routes that we move, that is the primary route for distribution of petroleum products, so any time you have some kind of delay or outage for extended period, then you have to find alternate transportation routes. Typically, that is long-haul trucks, which just simply drives the price up.

Senator INHOFE. And you heard Bob Portiss talk about the public-private partnerships. Would your companies benefit and be willing to participate in those partnerships also?

Mr. SWEARINGEN. Well, I think we would have to really take a look at it, Senator. I think, again, any kind of resourcing that can be brought to bear, we would really have to take a look at it and see if that would be something that provides an efficient and effective infrastructure funding mechanism. So I would not close off any opportunity.

Senator INHOFE. Senator Boxer.

Senator BOXER. I want to thank you all for your testimony. It is very clear, and it is a call to this committee to step up, and we are going to. We are going to step up.

Mr. Portiss, in your many years of experience, you point out in your way that our ports are an economic engine, and certainly in Oklahoma. I wanted to point out in California our ports employ more than 500,000 people. And if you take a look at the indirect jobs across the country because of all the work that comes when you are shipping, it is 3 million indirect jobs.

So just in one State, albeit the largest State, 500,000 direct jobs and 3 million indirect jobs. So I am glad that our ports are rated a C. We ought to do a lot better than that given the greatness of this Nation.

Now, Doctor, in your presentation, which I found to be a real wake up call, you went through the report card, and I would ask unanimous consent to place that in the record at this time.

Senator INHOFE. Without objection.

[The referenced information was not received at time of print.]

Senator BOXER. What we are looking at is the best we do in this WRDA bill to look at our responsibility is the ports; they are a C. But dams are a D, drinking water is a D, inland waterways D-, levees a D-. That is just a sad, sad report card. If our kids came home with this, we would really be upset, and I hope we are going to be upset, and we are going to step up to the plate. So we will put that in the record, and I thank you for that, and I am so happy you were here and so articulate.

Now, another thing you say in this report, which I am going to quote word for word. When we look at Flint, we all get so sad and sick about it, but listen to this: "It's estimated that more than 1 million miles of water mains are in place in the United States. The

condition of many of these pipes are unknown because they're buried underground, out of sight, they're owned and operated by various local entities. Some pipes date back to the Civil War era and often are not examined until there is a problem or water main break, and these breaks are becoming more common as there are an estimated 240,000 water main breaks per year in the United States."

So I would ask if I could put that document in the record as well. Senator INHOFE. Without objection.

[The referenced information was not received at time of print.]

Senator BOXER. So, again, Flint is a warning to us, it is a wake up call to us. It is something that we have now a moral obligation and I think a fiscal obligation to step up to the plate on, because when these things happen it costs taxpayers a fortune.

Look what is going on in Flint. We still can't figure that out. We are going back and forth, how do you pay for it. Prevention is key here, and we know what we have to do. In the case of Flint, had they treated the pipes immediately, we wouldn't have seen the lead poisoning that we have seen.

So we have to act. And I often say once you know there is a problem and it is hurting people, we have an obligation.

Now, Mr. Makarios, in your testimony you discuss your support for a WRDA bill and the job it represents, and I think all of you have made the case; business, labor, everyone. Are the jobs created by projects authorized in WRDA good jobs that help workers support themselves and their families? Because we watch the Presidential, every candidate, whether Republican or Democrat, is saying that we have to raise wages and create good jobs. Are these good jobs? And could you give us an example of the types of jobs supported by WRDA projects?

Mr. MAKARIOS. Thank you, Senator, I would be happy to. I think it is important to keep in mind that a construction worker, every job they are ever on, they are working themselves out of a job because they are working for a project, and when that project ends they have to move on, and there has to be another job for them to continue.

But having said that, these are very good jobs. Our members, when they are working, work very hard. When they are working today in Minnesota, it is in single digits; they are working outside and working very hard under tough conditions. And it is hot in the summer, and sometimes they are in the mud, and certainly when they are on heavy infrastructure projects, they are working on lock and dam projects, that is tough work.

But they are compensated well. They have great benefits to take care of their families. They are paid good wages that take care of their families, and when they retire they are able to retire with dignity.

Senator BOXER. Well, thank you for that.

So I will close with this. We are still recovering from the great recession, and what we did on the highway bill was really beautiful, how we came together, and we were so proud as a committee. No one thought we could do it. We locked in economic growth in the transportation industry for 5 years, and we need to do the

same thing for WRDA every couple years. I am so excited about the opportunity.

And I couldn't imagine a better panel, in all sincerity, and I thank you all for your contribution.

Senator INHOFE. Thank you, Senator Boxer.

Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman. I would like to begin by thanking the Chairman and Ranking Member, and really this committee for beginning early steps to take action on WRDA, because it is important that we exercise our constitutional authority to make sure that the projects that will be studied and constructed by the Corps of Engineers are followed through. I was a conferee on the 2014 bill when I was in the House, and I remind everybody we had 91 votes in the Senate and 412 in the House, so it was a very overwhelming bipartisan support.

And I would agree with the Ranking Member, it is nice when we have consensus that we can build together, because on this committee sometimes we just don't have that.

So I think the panelists have all said it is universally agreed that waiting 7 years has a detrimental effect way far too long. So this is important to my home State. I am going to highlight a little bit.

As you know, we have a lot of rivers, Mr. Swearingen, move a lot of product on our rivers, and one-third of our State's coal is shipped by barge. And shipping by barge is large for not just coal, but also natural gas and our chemical industry. According to the Corps, 32 million tons of commodities are moved by barge to and out of West Virginia, and more than half of these are shipped to our surrounding States.

But water navigation is not the only benefit that we see. West Virginia's mountainous terrain makes us particularly vulnerable for flooding. Currently, thanks to previous WRDA legislation, the Corps is working to improve the Bluestone Dam, for instance, in Hinton, West Virginia. These improvements on this dam will not only allow our families to rest easier, but the annual flood damages prevented is estimated to be around \$80 million.

So, Mr. Swearingen, you mentioned several details that would prove beneficial if we successfully enacted the legislation. Could you kind of take the flip side of that and highlight for us maybe some of the difficulties and uncertainties are that would be associated with us failing to act every 2 years?

Mr. SWEARINGEN. Yes, Senator. I think, again, it comes back to the assuredness of affordable, available energy supply, because, as you well know, a lot of these water routes are truly the only effective, efficient way to deliver transportation fuels into the various markets. So if you don't have access to those, if you don't have certainty of access, then it simply drives up cost to the end consumer.

Senator CAPITO. Does it have an impact on your company's willingness to invest and reinvest when the uncertainty is not there for the next several years?

Mr. SWEARINGEN. It certainly is a factor. We are very committed to our traditional Midwestern markets, South and Southeast. But even with that long-term commitment, if you have higher costs, higher operating costs, you have to factor that in to your long-term decisionmaking. So absolutely it can have a negative impact.

Senator CAPITO. Thank you. One of the significant policy changes that we enacted in the last WRDA bill was the 3-by-3-by-3 process, where feasibility studies must be completed by all three levels of the Corps in 3 years at a cost of no more than \$3 million. Now, I know it has been less than 3 years since the 2014 WRDA bill, but I am wondering has anybody had any experience with the 3-by-3-by-3? No. I see a no, no, no, no, no. All right, that's five by three nos.

OK, I assume that probably will take longer to get into reality to see how that works. Obviously it is streamlining, trying to move these projects further, because time is money. These are very expensive projects.

Dr. Mattei, you mentioned a report card, and I am with the Ranking Member there; if my children had brought home those report cards, I would go into immediate panic. And I started thinking, besides devoting resources and time, how would I get out of that, and I think one of the things I would have done would be to prioritize levees, dams. They are all very, very important. Is there any way from a civil engineering perspective that you would prioritize which one of those categories needs to bubble up first in terms of repairing our Nation's infrastructure?

Ms. MATTEI. Well, I don't think we really should limit ourselves to looking at one sector being more important than another. It is possibly better to look at each sector, prioritize and rank those projects within a sector, and then take across all sectors the riskiest, the ones that pose the most risk to the American public.

Senator CAPITO. So make the decisions based on a risk-based decision, which makes a lot of sense when you consider what could happen if some of these failures would occur not only in commerce, but loss of life, property, and all those other things.

Thank you very much. This has been a great panel. Thank you.

Senator INHOFE. Thank you, Senator Capito.

Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Chairman. Thank you to both you and the Ranking Member for taking up WRDA again.

Rhode Island was first settled in the 1600s, and in the 1700s Newport, Rhode Island, was a bigger deal than New York, New York. The British put an end to that when they occupied the place, and they were not good occupiers. But the result of it being a long-old, original State is that we have a lot of old infrastructure.

Here is some new infrastructure from Rhode Island. See that? This is a pipe from Kingston Village, 1920s installed, and it is already corroded. You can see how little comes through that compared to original; and there is a lot more of that around for us to work on. There is plenty to be done.

Senator BOXER. Can we look at that?

Senator WHITEHOUSE. Just be careful; it is a little dirty. Don't get it on your clothes.

So thank you very much for keeping the focus on this.

[Laughter.]

Senator WHITEHOUSE. I wanted to make an additional point, and I think I have the sympathy of the Chairman and the Ranking Member in this, which is that when we disarmed ourselves of being able to do what were then called earmarks, i.e., have any specific

congressional control over anything, we gave up enormous amounts of our legislative power. I had a conversation with Chairman Enzi the other day and I said, you know, there are lots of traditional fights in Washington; one is party versus party. We all know that one. One is executive versus legislative; one is member versus staff, we see a certain amount of that. And he said don't forget Senate versus House. So those are our big four fights. And in the executive versus legislative fight, I don't think we have ever seen unilateral disarmament by a legislature to the point virtually of self-mutilation that we did by handing all of this authority over to the executive branch.

Senator INHOFE. This will surprise you, Senator. I agree with you.

Senator WHITEHOUSE. Exactly. We pour money into the Army Corps of Engineers and it goes into a pile where they have huge lists of projects, and they pick and choose without virtually any input from us. Unless you are, I think, one of the real senior masters of the universe who they need for appropriations and things like that, then I suspect that there is a back channel that gets things done. That, to me, is no improvement over an open earmark in a public process in a formal committee.

So I am keen to work with members of this committee to try as best we can to define and refine our response to the earmark rule so we are not simply emasculating ourselves and shifting the power over to executive officials who then have zero accountability to us, particularly if we only do this every 7 years. So for all those reasons doing this every 2 years is something that I applaud. I know it takes a lot of effort, and for the Chairman and the Ranking Member to have done this, I appreciate it.

I would like to mention one other topic just by way of if somebody else is interested in working with me on this. When we think of dams, we often think of big working dams. We think of power generating dams, Hoover Dam, we think of people damming the Columbia and things like that.

Rhode Island has hundreds of dams. We are not a big State. We have hundreds of dams going back through our whole history. Some of them it is not even clear from their title who even owns them any longer. And trying to get a little hydro system installed, trying to get a canoe or kayak passage approved, trying to get permission to just route the stupid thing out so that its collapse in a crisis is no longer a health or safety threat to people below is a very, very complicated set of procedures. It is not significantly different to do that versus to do dam across the Columbia River.

So the result is hundreds of these old dams get no attention because the bureaucratic and administrative costs of addressing them is so high that it is not worth the candle to deal with it. So finding a way to deal with these old dams I think would be a very useful process. If anybody else is interested, I put up my flag on that issue and look forward to hoping that that could be a bipartisan issue.

So thank you. Let's get these rotten old pipes replaced. Well done on reasserting our legislative authority, and let's see what we can do about the old dams that are a threat but there is too much bureaucracy around fixing them to get it actually fixed.

Senator INHOFE. Thank you, Senator Whitehouse. I might add on your comment on earmarks, since the moratorium originally went in, not one cent was saved. Did you know that?

Senator FISCHER.

Senator FISCHER. Thank you, Mr. Chairman.

Mr. Roberson, I just wanted to thank you for being here today. As you know, I had a field hearing for the EPW Committee in August, and I was very, very pleased that John Kinter, the Environmental Manager at that great Nucor plant that we have in Norfolk, Nebraska, was there to testify, and he did an absolutely wonderful job in providing this committee with appropriate good information. So thank you for being here.

I do have a question for you. Congress addressed the importance of resilient construction in the 2014 WRDA, and in your opinion, what was the intent of that?

Mr. ROBERSON. Thank you, Senator. Thank you for the kind words about our nice plant, and thank you for the platform that you provided for us.

Senator FISCHER. Well, we love having you in Nebraska.

Mr. ROBERSON. Outstanding. We love being there.

The Army Corps of Engineers sets the standards for the large infrastructure projects with respect to resiliency, so I don't know that I can speak to what qualifies for that. What I can tell you is that steel is a resilient, durable product that, irrespective of that standard, we are prepared to provide material in support of that. In fact, the Rhode Island pipes that I saw, they are just dying for some Nucor steel in the new pipe manufacturing process.

Senator FISCHER. Thank you, sir.

Mr. Swearingen, your testimony mentions the necessity of investing in energy transportation infrastructure. How will these infrastructure investments ensure American families have access to affordable energy?

Mr. SWEARINGEN. Senator, great question. I think with the energy boom and the renaissance in the United States, it is great to have the production, but you have to get it to the markets. The energy infrastructure, whether it is pipe, whether it is waterways, whether it is rail, whether it is truck, are all necessary, all of the above, in order to get that abundant affordable energy, keep it affordable, and get it to the end consumer.

Senator FISCHER. And will that help to make energy more affordable for our families?

Mr. SWEARINGEN. Absolutely.

Senator FISCHER. It definitely will. How are we going to move ahead on that? What are your recommendations?

Mr. SWEARINGEN. Well, I think certainly with the WRDA bill, moving forward with that and maintaining the infrastructure, I think continued work on pipeline safety authorization to enable pipelines, continued infrastructure development on the roads and the rails. It is really an all-of-the-above necessary infrastructure.

Senator FISCHER. I am glad you mentioned pipelines. I have a Safe Pipes Act that I am hoping we can get passed here in the Senate. I think it is very important that we move that bill forward. It helps with the regulations; it is going to help make our pipelines safer. So thank you for mentioning that.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Fischer.

Senator Booker.

Senator BOOKER. I want to thank Senator Fischer also for mentioning our Safe Pipes Act; we are working on together in the spirit of bipartisanship, which I hope makes the Chairman happy. And I want to thank the panel for being here today in general.

I just cannot emphasize enough, after going to visit New Jersey and seeing the storm we just had, where in some areas the flooding was worse than Super Storm Sandy; to see people lose their homes, to see people who have had their livelihoods affected. The urgency that exists with us doing work that is improving our resiliency. And it is the most fiscally conservative thing I can think to do, which is to make a small investment up front to prevent from having to make a massive investment later on.

So I cannot emphasize enough, as we start to talk about WRDA, about the urgency for resiliency efforts. It is the fiscally conservative thing to do, it is the enlightened thing to do. And after seeing the damage again in Cape May County last month, it is the humane thing to do, to empower families to persevere despite the wacky weather that we are having.

The second thing that is very important to me is just this outrageous reality we have in this country where we have such an aged, decrepit system of delivering water to people. Literally, New Jersey, probably about \$4 billion of deficit in terms of keeping the systems up, hundreds of billions of dollars nationally, that right now, and I am not just talking about Flint, but right now is putting our families, our children, our elderly folks in danger.

Lead poisoning is not just something that happened in Flint, Michigan; it is happening based upon aged infrastructure all across our Nation, endangering young people, endangering elderly, endangering health and safety, particularly in poor neighborhoods.

If the greatest natural resource this country has is not oil or gas, it is the genius of our children, then what we are doing with our inability to invest in improving this infrastructure is, to me, such an affront to everything we say we are as a Nation. And again, it is the fiscally conservative thing to do, upgrading these pipes, protecting health and safety, saving on medical costs, unleashing the economic potential. And the data shows, in fact, that investments in water infrastructure create an economic return in the same year that you make that investment that is far greater than what folks on Wall Street struggle to get every single day.

So I just want to just emphasize those two urgencies.

But very specifically to Dr. Mattei, I am working on a potential Senate companion bill to Congressman Earl Blumenauer's bipartisan Water Infrastructure Trust Fund Act that he introduced just last week with two of his Republican colleagues. The Trust Fund would provide resources, as you know, to improve our water infrastructure through the creation of a labeling system that would allow companies to voluntarily contribute to improving our water infrastructure. I am interested in working with my colleagues on the EPW Committee to include this proposal like the Water Infrastructure Trust Fund in this year's WRDA bill. I think it is an important step to addressing some of the issues I just talked about.

So in the brief moment I have left in my time, Dr. Mattei, can you provide some of your thoughts on how the Water Infrastructure Trust Fund Act could help us address our chronic underfunding of our watershed and drinking water infrastructure?

Ms. MATTEI. Thank you for that question. Drinking water received a grade of D, and there is about a quarter of a million water main breaks a year.

Senator BOOKER. Even beyond water main breaks, we are just leaching water out. There are leaks consistently where we are losing a tremendous amount of water we are treating and pumping as well.

Ms. MATTEI. Right. Back in my hometown it is about 40 percent. So the older the city is, the leakier the connections of the distribution system. So we treat this water, which costs us money, and then we allow for some of that product to leak out, and that costs the American public.

Senator BOOKER. So can you speak to Blumenauer's introduction? Is that something that would help getting more resources for our water infrastructure?

Ms. MATTEI. Of course it would. It is voluntary but it would allow for another source of funding in order to address some of the needs that we have in the area of drinking water.

Senator BOOKER. Yes. You call it common sense. You would call it something that is just common sense allowing for that?

Ms. MATTEI. Just common sense to fix the leaks so that we drink what we clean.

Senator BOOKER. All right. Thank you very much.

Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Booker.

Senator BOOZMAN.

Senator BOOZMAN. Thank you, Mr. Chairman.

And thank all of you all so much for being here. We do appreciate all of your expertise and your willingness to come and share with us.

Mr. Roberson, in Arkansas alone I understand that the Nucor facilities can recycle over 6 million tons of steel per year. You have some of the lowest emissions in the steel industry anywhere in the world. I believe that you have reduced energy intensity by more than 30 percent since 1990, and greenhouse gas emissions have fallen by 35 percent over the same time period, which is excellent. In short, Nucor is a global steel producing powerhouse, and your locations in Arkansas near the Mississippi River are globally competitive because of the waterway. That is one of the major things.

Could you talk about how you are able to keep jobs in Arkansas and achieve environmental goals in part by remaining competitive globally?

Mr. ROBERSON. Well, thank you, Senator. In Arkansas, I spent the first part of my career actually at one of the plants there in Arkansas, about 7 years. We locate those facilities where good American workers with good strong work ethics reside. They have a natural transferrable skill set that supports manufacturing steel, and that is one of the things that has driven the ability to do that in that State.

Senator BOOZMAN. Can you talk a little bit more about the importance of the inland waterways and how they affect your ability to transport your product in a very environmentally sensitive way, compared to being on trucks or on rail or whatever, and how that allows us to keep jobs at home as we compete in a very, very tough environment globally with others throughout the world?

Mr. ROBERSON. Absolutely. So I mentioned in my testimony that 1,700 tons move on a barge. Many of our plants, the plants that you mentioned, 90 percent of their raw materials that come into their plants are moved on the waterway system. If you think about a catastrophic failure or the deterioration of service on the waterways, moving that to the rail system, that same 1,700 tons would now equate to 17 additional railcars moving product or, conversely, 80 truckloads. So if you think about that times bringing in 6 million tons of product and comparing that to our highways, it just doesn't make a lot of good common sense.

Senator BOOZMAN. So lots more emissions and lots more expense.

Mr. ROBERSON. Lots more emissions, yes.

Senator BOOZMAN. Lots more of expense for your company in trying to compete.

Mr. ROBERSON. Absolutely.

Senator BOOZMAN. Mr. Portiss, I would like to follow up a little bit on Senator Inhofe's question and your comment about what we try to do in the WRDA bill regarding the Corps' ability to accept help in an emergency.

You said that in Oklahoma it would cost, what, \$2 million a day, is that right?

Mr. PORTISS. That would be the economic loss to the State if a failure should occur, yes, sir.

Senator BOOZMAN. The other problem is one of the situations that we are always fighting with inland waterways is reliability. What would that do in the sense of if you had to shut down for many months, what would that do as you divert traffic off of that and people figure out, well, maybe we ought to shift to something else that is more reliable? What would that do to the system? Has anybody studied the long-term effect of the loss of business in the system in that regard?

Mr. PORTISS. There have been a multitude, Senator, of studies that have been done to try and figure out what would happen if we lost the waterway completely; what would be the alternatives for us to move those same products. Quite frankly, to me, having been in this business all these years, it would be devastating. We have worked for 45 years to try and develop our ports along our waterway, and I think we have done a respectable job. Now, all of a sudden, the whole waterway is at risk. So, therefore, those companies that we have been able to attract to locate in Arkansas and Oklahoma, gone.

They are talking about doubling of international trade, at least, over the next 10 years. Our highways, our railroads do not have the capacity to be able to handle that. My friends that run the Port of L.A. in Long Beach, used to have a good friend out there by the name of Geraldine Nance, and she said, Bob, we don't have any more capacity here. It is just an example of why it is so important for us as a Nation to keep our inland waterway system viable.

Selfishly, in Oklahoma, we are kind of new, but we are adding tremendously every single year. But that all would be lost if we lost this waterway. And I can give you company upon company names where I don't know what they would do. They would have to cut back production, cut back jobs, and the impact would be literally devastating.

Senator BOOZMAN. No, that is an excellent point. We talk about our farmers working hard to feed the world with the need in the future, and they can produce it, but if you can't get it there, then you have big problems.

Thank you all very much. We appreciate your being here.

Mr. PORTISS. Thank you for the question, sir.

Senator INHOFE. Thank you, Senator Boozman.

Senator Cardin.

Senator CARDIN. Well, Mr. Chairman, I want to thank you, and I want to thank Senator Boxer for the manner in which you have always worked together on the WRDA bill. You both understand how critically important it is to our Nation's future.

And I know that this committee wants to get the most robust WRDA bill done because we recognize it's jobs and it's economic growth and it enables so many important activities in our States. And you open up the process, and I really appreciate, and I will be coming to you on individual projects such as Smith Island, the last inhabitable island on the Chesapeake Bay, along with Tangiers, which is in Virginia. But in Maryland, Smith Island is the only—important to the Port of Baltimore, not only to commerce in my State, but the entire country, and how we need to pay attention in the WRDA bill to those types of economic activities.

I talk about the Chesapeake Bay. I talk about Chesapeake Bay whenever I can, and the WRDA bill is an important tool in preserving this national treasure. And I certainly will be talking to you about Baltimore City and its economic development future. It has certain issues that I think we can deal with in the WRDA bill.

But let me just use my time to underscore what many of my colleagues have talked about, and that is the importance for us, as the authorizing committee, to speak to a crisis we have in America, and that is the water infrastructure of America is in crisis. Now, we saw that in Flint. Flint was a very obvious symbol of drinking water pipes that are old, contain lead, and then inaction and, in many cases, failure to act when they should, put children and families at risk. And I hope before we go home for this recess that we will deal with this in the energy bill, dealing with Flint's issue, but I want to make sure we deal with the specifics.

But the problem is nationwide. Let me just give you some of my figures on lead. In Washington, DC, in the early part of the last decade, lead leached into the water of possibly 42,000 children. In the city of Baltimore, high lead levels in the school prompted officials to turn off drinking fountains and pass out bottled water. We don't use drinking fountains in our schools, we don't; we use bottled water in our schools in Baltimore City. We have been doing that for a while. And across the State of Maryland, every 1- and 2-year-old in the entire State will be tested for lead. That is 175,000 children will be tested for lead because we believe that

there has been too much exposure in our State, and we want to do something about it.

I think everybody has heard the circumstances about Freddie Gray and the tragedy that occurred in Baltimore. He suffered from lead poisoning.

So we have to do something about the water infrastructure in America. This committee has tried to do things in the past. We have not been able to get to the finish line on some of these. The EPA estimates that our water infrastructure needs about \$655 billion, \$655 billion. We appropriate \$2 billion a year in the State revolving funds, and we have not reauthorized the safe drinking water. I hope that in WRDA there will be an opportunity for us to take up the reauthorization of the Safe Drinking Water Revolving Fund.

I noticed the President's budget is terribly inadequate in this area, Mr. Chairman. It is inadequate in the drinking water, and it is certainly inadequate in the clean water, where he cuts the Clean Water Fund. And as we all know, if you don't deal with the safe handling of our wastewater supplies, it affects the quality of water that goes into our drinking water, as well as into our streams, as well as into our environment.

So I appreciate that the American Society of Civil Engineers gives us a report card every 4 years.

Could you just explain, Doctor, why we got a D+? I didn't know we deserved a D+. Is there some improvement that I didn't know about? Obviously, that is an unacceptable grade. Tell me why we are deficient. This is the greatest Nation in the world.

Ms. MATTEI. This is the greatest Nation in the world, but we have been really riding on the coattails of our parents and our grandparents, and the investments that they made, and we have not really maintained it properly, nor have we modernized this infrastructure properly. We really need to be smarter and build smarter.

We determined these grades based on eight different areas: Capacity. So we need the capacity. Condition. What is the condition of each of these items? What is the funding that is in the pipe already? What is the future need? Because we see growth in many areas. O&M, operations and maintenance, which we have been pretty bad as a Nation on maintaining our infrastructure properly. Public Safety. Resilience, as has been mentioned. It is a lot cheaper to create resilient infrastructure than to throw money at it when it breaks and there is a disaster. And finally, Innovation. So those are how we get those grades. And across the board, in all sectors, we are not doing a good job at any of those eight areas.

Senator CARDIN. Thank you for your testimony. I do know that this committee wants to do something about it, and we are going to try to find a way to make that a reality. Thank you for your testimony.

Senator INHOFE. Thank you.

Senator Carper.

Senator CARPER. Thanks, Mr. Chairman. Before Senator Cardin heads for the floor to help manage the Career Sanctions bill, what I am going to talk about here today is the damage we sustain on beaches from the southern part of your State all the way to the

northern part of my State, and you were a partner in this, but the great work that is done by the Army Corps of Engineers to help restore the dunes that are on our beaches from Fenwick Island, which is just north of Ocean City, Maryland, all the way up to Lewes, Delaware.

We went through a nor'easter, I was told it was the worst nor'easter we have had since maybe 1962, and it occurred that this nor'easter of 1962 pretty much—I don't know if it destroyed all of our coastal towns, but it came pretty darn close. And in this case we had a nor'easter almost as bad as that one, and when the winds subsided and the storm subsided, the buildings in all these towns were still standing, the homes were still standing; the infrastructure, the roads, the sewer systems were still operable, and the boardwalks were still there, and it is because of the work that was done in preparing defense against the onslaughts of Mother Nature. Some of those dunes are largely eroded, largely gone, but they need to be maintained and sort of rebuilt. Mother Nature is beginning to bring sand back onto the beach, and we are bulldozing that sand up to the boardwalks, so we are getting a little helping hand there from Mother Nature, but there is more work to be done.

I am not sure who to start off with this question, but I understand one of you is a president-elect, so we will just start with you. President Mattei, Dr. Mattei, your first name is Norma Jean.

Ms. MATTEI. Norma Jean. My momma did that to me.

Senator CARPER. Has anyone asked you about your name today?

Ms. MATTEI. Not yet, but people sing the song to me, Goodbye, Norma Jean, all the time.

Senator CARPER. Hello, Norma Jean.

Ms. MATTEI. Thank you.

[Laughter.]

Senator CARPER. I want to echo Senator Booker's comments on the importance of investments to protect life and property along our coasts. In the middle of our Nation we invest in dams and levees and flood control, but on our coast—as I have alluded to, and Senator Cardin would agree with this—it is beaches and dunes that protect us and help us to save money when we get hit by a big one, as we were a couple of weeks ago.

Unfortunately, we are seeing damaging storms come along more frequently. As I mentioned, a couple weeks ago a storm called Jonas did more damage in Delaware than many summer hurricanes. Nor'easters are what we fear really more than hurricanes these days.

But I will be touring these areas. I have been down to them a couple of times with our Governor, our congressional delegation. I am going to go back later this week. What I am hearing is that the Army Corps is running low on funds to complete disaster repairs, and here is my question: Should Congress examine potentially increasing the amount of authorized emergency repair funding? And what else can we do to protect coastal residents from storm and flood damage?

If we can start with you, Dr. Mattei.

Ms. MATTEI. So people love the water, they love to be by the water, they love to be by the beach, so I don't think that that trend of the population moving to the coasts or the inland coasts is going

to change anytime soon. Regardless of the cause, we are suffering from an increase in sea level, so we know, as engineers, that we can design properly, but you need to fund and innovate. So it is a question of innovation, I think, and that costs money.

So when you talk about coastal areas, and my hometown is the poster child for the issues that we are talking about.

Senator CARPER. Where is your hometown?

Ms. MATTEI. New Orleans.

Senator CARPER. OK.

Ms. MATTEI. So we have subsidence issues that the net difference that we are going to see in the future is, quite frankly, a little frightening.

So there are measures that we can take to restore coastlines, but it is costly. And, as you mentioned, a storm can take away what you shore up along coasts, as far as sand dunes. So any measures to work with Mother Nature are usually a very wise thing so a healthy coastline is more resilient, it is more able to bounce back from a disaster.

Senator CARPER. All right. My time has almost expired. Could one more person just comment very briefly in response to the question?

Thank you, Doctor, and good luck in your administration.

Anyone else want to comment? Please. All right, I guess you said it all. Thanks very much.

Senator INHOFE. Thank you, Senator Carper.

Senator Gillibrand.

Senator GILLIBRAND. Thank you, Chairman Inhofe. Thank you both for holding this hearing today. I appreciate it very much.

I am pleased that investing in our infrastructure is a bipartisan issue for our committee, and we all agree that investing in our infrastructure is critical for a growing economy, creating good paying jobs here at home and remaining competitive.

As this committee puts together a new WRDA bill this year, we also have the opportunity to ensure that we are improving the safety of our water infrastructure, restoring our environment, and protecting coastal communities like those on Long Island and Staten Island against the effects of climate change and extreme weather such as Super Storm Sandy.

As we are still rebuilding from the devastation of Super Storm Sandy, we have to actually rebuild smarter to ensure that our flood protection strategies will result in more resilient communities that are prepared to withstand future storms. We should look at additional steps we can take to encourage and support the use of natural infrastructure to protect against flood risk. Restoring coastal wetlands and other natural buffer zones against storm surge is critical to coastal States like mine.

In addition to making our coastlines more resilient, we must also ensure that we are addressing the safety of hundreds of dams in upstate New York, many of which are beginning to show signs of aging. I hope that we can work together to address concerns that New York has about the continued maintenance of Army Corps-built infrastructure and find a way for the Corps to provide more technical assistance, and where necessary, funding to assist States with aging infrastructure.

So I hope that this year's WRDA bill will also address the continued funding needs of the Great Lakes navigation system, including the commercial and recreational harbors along Lake Erie and Lake Ontario in New York.

I just have a couple questions for Dr. Mattei. Dr. Mattei, what are the benefits of investing in environmental restoration and natural infrastructure to protect against the threat of extreme weather and storm surges?

Ms. MATTEI. So as I mentioned before, a healthy coastline or healthy estuaries are more capable of bouncing back from a storm or from riverine flooding, depending on where your high water comes from. So if you engineer those properly and smartly, sometimes it is not trying to restore a coastline to where it used to look, the way it used to look, but putting it where it needs to be in order to protect the public, in order to protect plants, industries. So you really have to be wise in where you put these coastal restoration projects. And if you work with healthy plant life, that can really provide resilience against storm surge or flooding.

Senator GILLIBRAND. According to the American Society of Civil Engineers' 2015 Infrastructure Report Card for New York, we have 399 high-hazard dams, and \$152 million are needed to repair dams in my State. What more should the Federal Government be doing to address these critical inspection repair needs to ensure the safety of communities near those dams?

Ms. MATTEI. Well, that is the million dollar question, or maybe it is more.

Senator GILLIBRAND. No, it is \$152 million.

Ms. MATTEI. And again it may be if Federal expenditures are not going to increase, then the costs perhaps are going to be pushed onto the States and to municipalities. At least in the dam arena we know how many we have and what the conditions are, so you know the number. Unfortunately, I don't have a crystal ball to tell you what is the one that is going to go first, if we do have a failure.

Senator GILLIBRAND. Could the Federal Government at least do a review and prioritize them? These are Army Corps projects.

Ms. MATTEI. That is exactly where I was going.

Senator GILLIBRAND. They should have the expertise to at least assess these ones are going to be the ones that will breach, that will harm human health more in a more likely way or more urgently. I would expect the Army Corps having an opinion about which projects are urgent would be useful.

Ms. MATTEI. So it is a matter of risk, so when you measure risk and you can rank them appropriately. Risk is, you take a look at the probability of a failure and also the consequences of that failure, so you might have a dam that is perhaps not highly probable of failing, but it is really protecting a lot, so the consequences of that failure then put it up in a higher priority level.

Senator GILLIBRAND. OK.

Thank you, Madam Chairwoman. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Gillibrand.

And we thank the panel.

Any final comments, Senator Boxer?

Senator BOXER. No. I am with you in your final.

Senator INHOFE. OK, that is good.

Well, we appreciate very much your coming. This is something, for those who are outside observing this committee for the first time, it is not always this friendly.

[Laughter.]

Senator INHOFE. But we get things done. While other people talk about it, we do it, with the help of people on the outside, like you. I appreciate very much each one of you taking the time to come, particularly Bob Portiss because he came from my hometown.

We are adjourned.

[Whereupon, at 11:34 a.m. the committee was adjourned.]

[An additional statement submitted for the record follows:]

STATEMENT OF HON. DAVID VITTER,
U.S. SENATOR FROM THE STATE OF LOUISIANA

Thank you, Chairman Inhofe and Ranking Member Boxer, for holding this very important hearing on the Water Resources and Development Act. Three years ago, this committee, and ultimately Congress, passed a bipartisan WRRDA bill that addressed many of our Nation's water resources needs and the Army Corps of Engineers' project delivery process. Success was achieved through this committee's deliberative process, and the same success can be achieved if we follow the formula that gave us a bill in 2014.

This hearing to discuss the importance of passing another Water Resources and Development Act is a critical first step to achieving a successful bipartisan solution to the problems that face our Nation's water resources infrastructure. However, success can only be achieved if concerns from members of this committee, and the full Senate, are properly addressed to the fullest extent possible.

Accordingly, this committee must ensure that our partner in water resources development, the Army Corps of Engineers, is held accountable for their actions—or inaction—to properly maintain our waterways, dams, locks, and levees, and protect those in harm's way from catastrophic natural disasters like hurricanes Katrina, Rita, Irene, and Sandy.

To achieve the aforementioned success in developing a bipartisan WRDA bill, I believe we must use the deliberative hearing process of this committee to address some very important issues affecting the Corps and our Nation's water resources projects.

Several times over the past decade, I embedded myself with the Corps' New Orleans District as hurricanes and tropical storms made landfall in south Louisiana. It was important to me and my constituents to see how the Corps operated their disaster management plan and how the nearly complete \$14 billion post-Katrina hurricane protection system performed when pushed to the limits of Mother Nature.

While the Corps' post-Katrina hurricane protection system has worked without incident and kept the metropolitan New Orleans area virtually free of flood waters on several occasions, many communities surrounding the protection system were inundated with upwards of 14 feet of storm surge during Hurricane Isaac. I visited many of those communities after the storm and witnessed firsthand the destruction caused by flood waters.

One such community is LaPlace, Louisiana. This community of 32,000 is located west of New Orleans along the east bank of the Mississippi River and south of Lake Pontchartrain. Local officials and the levee board have been trying for almost 40 years to get a hurricane protection project, as Congress first authorized a recon study in 1971 and again in 1974. Over the past four decades, the Corps has unnecessarily delayed the project, changed the alignments, and increased the construction cost exponentially.

Finally, after decades of work, the Corps has given Congress a favorable Chief's Report recommending construction of a critical flood protection measure to protect those people who have experienced the devastation of hurricanes in south Louisiana. To make this project a reality, Congress must authorize this project for construction, and it begins by passing a WRDA bill this year. Had there been some level, any level, of flood protection in place before Hurricane Isaac, much of the storm surge would have been prevented.

I'm pretty confident that many of my fellow colleagues on this committee have water resources projects in their States that have been on the Corps' books for many years, decades in some cases. The current Corps study and construction schedule is approximately 20 years, and in some cases much longer. This lengthy process is

unacceptable to the taxpayers who depend on the Corps to provide expeditious delivery of critical projects for flood protection, navigation, ecosystem restoration, and other water resource projects.

It is imperative that this committee continue to build upon reforms to the Corps' current project delivery process outlined in WRRDA 2014 so the time to construct water resources projects is a few years and not a few decades. Simple reforms to how the Corps does business with States and local stakeholders are what this committee needs to address as we move forward on the WRDA bill.

Another issue affecting not only Louisiana, but our Nation, is the ineffective operation and use of the Inland Waterway and Harbor Maintenance Trust Fund. Under the current Inland Waterway Trust Fund model, critical lock and dam projects are being constructed at a slow crawl, and several have experienced serious cost overruns since construction began. The Inner Harbor Navigation Canal is a project in Louisiana that will be constructed using IWTF dollars, but at the rate the Corps is constructing other projects on the trust fund's list, the Corps will not complete the IHNC before 2075.

The Harbor Maintenance Trust Fund is not much different. This fund collects nearly \$1.7 billion in excise tax on a yearly basis, but the administration and Corps only budget about half of that for use to operate and maintain our Nation's ports and coastal waterways. This is particularly unacceptable on the Mississippi River, which flows through the entire State of Louisiana into the Gulf. Historically, the cost to operate and maintain the lower Mississippi River, from Baton Rouge to the Gulf, is about \$100 million–\$120 million a year. However, the administration and the Corps only budget a little more than half of what it costs to operate and maintain this economic superhighway, which consequently is experiencing severe shoaling and vessel draft restrictions as a result.

We must build upon the legislative fixes to these trust funds included in WRRDA 2014 to improve our Nation's competitive advantage in world markets, especially with the expansion of the Panama Canal. This committee must ensure that our Nation's ports and waterways are operated and maintained at their full width and depth, and water resources infrastructure on those waterways are built in a more expeditious manner than the Corps' current schedule.

I am appreciative of the efforts of Chairman Inhofe for holding this critical hearing to move forward on WRDA. I encourage the Chairman to work with the members of this committee in a transparent, bipartisan manner to find solutions to the issues affecting our Nation's water resource projects and policies that govern their success. In the interest of all taxpayers, we cannot afford to hastily push a bill through this committee without addressing these key issues. I look forward to working with you and your staff in an expeditious manner to help achieve passage of the next WRDA bill.

